



IAEA

International Atomic Energy Agency

Atoms for Peace

September 2009

Sterilizing human tissue in Uruguay

The challenge...

Radio-sterilization of tissue is essential both to reduce the pre-processing bacterial load and as a terminal sterilization process. Uruguay did not have the capacity to radio-sterilize tissue grafts itself and had to rely on support for sterilization from other countries, which was a great expense to the country.

The project...

The project aimed to provide a sufficient supply of sterilized, high-quality tissue grafts with increased clinical and microbiological reliability. It also aimed to provide human resources qualified in tissue graft radiation sterilization within Uruguay in order to increase safe human homografts.

Three expert missions were carried out to transfer expertise in the areas of dosimetry and project management. Local capabilities were strengthened through a fellowship and the provision of training to local staff in the field of radiation sterilization. The existing facilities at the National Bank of Organs and Tissues in Uruguay were upgraded with new equipment including a high dose rate research irradiator. This was installed in 2006, and staff were trained to use it.

The impact...

- Uruguay now has access to safe and properly treated tissue grafts to heal different skin and musculoskeletal pathologies. A greater number of patients can now be treated.
- The production of radio-sterilized grafts with higher clinical and microbiological reliability was increased.
- Tissue banking activities have now been included in the National Programme for Continual Medical Education and Professional Awareness in Uruguay.



A high dose rate research irradiator, provided through the project.



Preparing tissue for sterilization.